UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,961,341 B1
APPLICATION NO. : 09/802309
DATED   : November 1, 2005
INVENTOR(S) : Krishnan

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Pg, Item (56), under "U.S. Patent Documents", line 8, after "5,418,782 5/1995 Wasilewski........." delete "370/436" and insert -- 370/486 --, therefor.

On Sheet 4 of 13, in Box 205 (Fig. 4), line 1, delete "Retieves" and insert -- Retrieves --, therefor.

In column 1, line 21, after "FIG. 1" delete ".".

In column 1, line 23, after "24(2)" delete ";" and insert -- , --, therefor.

In column 1, line 36, delete "modern-based" and insert -- modem-based --, therefor.

In column 1, line 60, delete "communicalion" and insert -- communication --, therefor.

In column 2, lines 4–6, delete "served without network congestion and to also avoid impacting other network servers which may be executing on the same host computer system." and
insert -- served without network congestion and to also avoid impacting other network servers which may be executing on the same host computer system. --, therefor on line 3 after "to be" as a continuation of the paragraph.

In column 2, line 13, delete "is" before "storing data".

In column 2, line 20, delete "in" and insert -- In --, therefor.

In column 3, line 8, after "is not" delete ".".

In column 3, line 10, delete "finctions" and insert -- functions --, therefor.

In column 3, line 53, delete "delaving" and insert -- delaying --, therefor.

In column 4, line 10, delete "inctementally" and insert -- incrementally --, therefor.

In column 4, line 13, delete "DESCRIPON" and insert -- DESCRIPTION --, therefor.

In column 4, line 58, delete "fuiction" and insert -- function --, therefor.

In column 5, line 40, delete "fom" and insert -- form --, therefor.

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In column 6, line 6, delete "notifv" and insert -- notify --, therefor.

In column 6, line 24, delete "Cl-Cn" and insert -- C1-Cn --, therefor.

In column 6, line 43, delete "CI" and insert -- C1 --, therefor.

In column 6, line 48, delete "transmntted" and insert -- transmitted --, therefor.

In column 6, line 52, delete "svstem" and insert -- system --, therefor.

In column 7, lines 31–64, delete "FIG. 5 illustrates in flow diagram form the process used by the bandwidth throttling system BT to regulate the operation of the various network servers NS1-NSm extant on the host computer system P. The bandwidth throttling system BT monitors the operations performed by the asynchronous thread queue ATQ to ascertain the bandwidth utilized by each of the network servers NS1-NSm. The bandwidth throttling system BT consists of two subsystems: a measurement subsystem MS to measure the bandwidth usage for each of the network servers; a control subsystem CS which applies feedback based control to the asynchronous thread queue ATQ to limit the bandwidth used by each network server NS1-NSm. The network operations which are monitored by the bandwidth throttling system BT are: receive, send, and transmit. file. The measurement subsystem MS, at step 301, monitors not only the operations which are performed by each network server NS1-NSm, but also the data flow rate for each operation, in the form of effective real time bandwidth consumed. The effective real time bandwidth is determined by calculating the bandwidth for each operation which is performed and averaging the bandwidth utilization over the last n operations performed. To limit the complexity, the monitoring subsystem MS does not maintain a complete history of operations, but instead maintains a histogram of bandwidth values for the last most recent n time intervals. These values are accumulated by time stamping the start and end times of each operation. If the operation proceeds to completion, the monitoring subsystem MS calculates the bandwidth by dividing the bytes transferred during the operation by the time interval duration. The resultant bandwidth value is stored, at step 302, in the n last time interval histogram, which set of values is used at step 303 to periodically compute an effective bandwidth for this network server." and
insert -- FIG. 5 illustrates in flow diagram form the process used by the bandwidth throttling system BT to regulate the operation of the various network servers NS1-NSm extant on the host computer system P. The bandwidth throttling system BT monitors the operations performed by the asynchronous thread queue ATQ to ascertain the

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bandwidth utilized by each of the network servers NS1-NSm. The bandwidth throttling system BT consists of two subsystems: a measurement subsystem MS to measure the bandwidth usage for each of the network servers; a control subsystem CS which applies feedback based control to the asynchronous thread queue ATQ to limit the bandwidth used by each network server NS1-NSm. The network operations which are monitored by the bandwidth throttling system BT are: receive, send, and transmit file. The measurement subsystem MS, at step 301, monitors not only the operations which are performed by each network server NS1-NSm, but also the data flow rate for each operation, in the form of effective real time bandwidth consumed. The effective real time bandwidth is determined by calculating the bandwidth for each operation which is performed and averaging the bandwidth utilization over the last n operations performed. To limit the complexity, the monitoring subsystem MS does not maintain a complete history of all operations, but instead maintains a histogram of bandwidth values for the last most recent n time intervals. These values are accumulated by time stamping the start and end times of each operation. If the operation proceeds to completion, the monitoring subsystem MS calculates the bandwidth by dividing the bytes transferred during the operation by the time interval duration. The resultant bandwidth value is stored, at step 302, in the n last time interval histogram, which set of values is used at step 303 to periodically compute an effective bandwidth for this network server. --, therefor on line 32 as a new paragraph.

In column 7, line 45, after "transmit" delete ".".

In column 7, line 55, insert -- all -- before "operations,".

In column 8, line 6, after "(R)" delete ";" and insert -- , --, therefor.

In column 8, line 13, delete "varv" and insert -- vary --, therefor.

In column 8, line 58, after "being" delete ".".

In column 9, line 10, delete "is." and insert -- is --, therefor.

In column 9, line 14, after "determines" delete ".".

In column 9, line 17, after "actions" delete ",".

In column 9, line 19, after "process" delete ".".

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 9, line 43, after "(B)" delete ".".

In column 9, line 46, delete "(B-δ)" and insert -- (B+δ) --, therefor.

In column 10, line 22, after "system" delete ".".

In column 10, line 42, delete "44(i)" and insert -- 44(1) --, therefor.

In column 10, line 44, delete "Ethemet" and insert -- Ethernet --, therefor.

In column 10, line 60, after "has" delete ".".

In column 10, line 65, delete "mns" and insert -- runs --, therefor.

In column 11, line 2, delete "svstem" and insert -- system --, therefor.

In column 12, lines 25–33, delete "If the I/O activity for the virtual service 60(1) continues to rise and the bandwidth used by the vitual service 60(1) exceeds a second threshold, the control subsystem 74 applies a second, more restrictive set of throttling actions to the requests for that virtual service. In this case, the throttling actions may include allowing only requests designated by the administrator as high priority, delaying requests designated as medium priority, and rejecting requests designated as low priority." and
insert -- If the I/O activity for the virtual service 60(1) continues to rise and the bandwidth used by the virtual service 60(1) exceeds a second threshold, the control subsystem 74 applies a second, more restrictive set of throttling actions to the requests for that virtual service. In this case, the throttling actions may include allowing only requests designated by the administrator as high priority, delaying requests designated as medium priority, and rejecting requests designated as low priority. --, therefor on line 26 as a new paragraph.

In column 12, line 25, delete "I/O" and insert -- I/O --, therefor.

In column 12, line 26, delete "vitual" and insert -- virtual --, therefor.

In column 12, line 35, after "BT" delete "svstem" and insert -- system --, therefor.

In column 12, line 35, delete "bon" and insert -- born --, therefor.

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In column 12, line 47, delete "exarnple" and insert -- example --, therefor.

In column 12, line 54, after "active list" insert -- , --.

In column 13, line 2, after "registered" delete ".".

In column 13, line 21, delete "bv" and insert -- by --, therefor.

In column 13, line 33, after "stores" delete ".".

In column 13, line 42, delete "1i0" and insert -- I/O --, therefor.

In column 14, line 40, delete "9" and insert -- 9) --, therefor.

In column 14, line 40, after "ATQ" delete ".".

In column 15, line 4, after "discussion" delete "." and insert -- , --, therefor.

In column 15, line 10, delete "client).A" and insert -- client). A --, therefor.

In column 15, line 18, delete "ftmction" and insert -- function --, therefor.

In column 15, line 29, delete "(stel) 158" and insert -- (step 158 --, therefor.

In column 15, line 33, after "is" delete ".".

In column 15, line 37, after "compares the" delete ".".

In column 16, line 2, delete "perations" and insert -- operations --, therefor.

In column 16, line 3, delete "nd" and insert -- and --, therefor.

In column 16, line 40, delete "virual" and insert -- virtual --, therefor.

In column 16, line 42, delete "bv" and insert -- by --, therefor.

In column 16, line 54, after "(step" insert -- 170 --.

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In column 16, line 55, after "measured" delete ".".

In column 16, line 56, delete "tile" and insert -- the --, therefor.

In column 16, line 63, delete "cf" and insert -- of --, therefor.

In column 17, line 22, delete "coifinuing" and insert -- continuing --, therefor.

In column 17, line 47, after "result" insert -- , --.

In column 19, line 24, in Claim 13, after "that" insert -- , --.

In column 20, line 21, in Claim 21, delete "form" and insert -- from --, therefor.

In column 20, line 38, in Claim 21, after "request" insert -- ; --.

In column 20, line 45, in Claim 23, after "request" insert -- , --.

In column 20, line 65, in Claim 24, after "request" insert -- , --.

In column 20, line 66, in Claim 24, after "client process" insert -- , --.

In column 21, line 6, in Claim 24, after "operations" delete ":" and insert -- ; --, therefor.

In column 21, line 26, in Claim 25, delete "operatoin" and insert -- operation --, therefor.

In column 22, line 21, in Claim 38, after "perform" insert -- the --.

In column 22, line 48, in Claim 40, delete "requested" and insert -- request --, therefor.

In column 22, line 65, in claim 44, after "request" insert -- , --.

In column 23, line 25, in claim 45, after "second threshold" insert -- , --.

In column 23, line 30, in claim 45, delete "server" and insert -- servers --, therefor.

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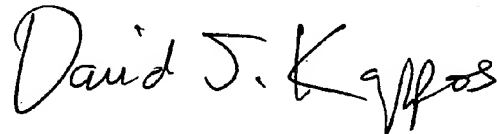
In column 23, line 41, in claim 46, after "request" insert -- , --.

In column 24, line 51, in claim 48, delete "request" and insert -- requests --, therefor.

In column 25, line 2, in Claim 49, delete "different" and insert -- differential --, therefor.

Signed and Sealed this

Eighth Day of September, 2009

David J. Kappos
Director of the United States Patent and Trademark Office